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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/526,038

04/18/2005

Dieter Hoffmeier

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EXAMINER

WEINSTEIN, LEONARD J

ART UNIT

PAPER NUMBER

3746

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/526,038	Applicant(s) HOFFMEIER, DIETER	
	Examiner LEONARD J. WEINSTEIN	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-18 is/are rejected.
- 7) ☒ Claim(s) 14, 15, 17 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the amendment of January 7, 2008. In making the below rejections and/or objections the examiner has considered and addressed each of the applicant's arguments.

2. The examiner acknowledges the amendments to claims 6-10 and notes the addition of claims 11-18.

Specification

3. The amendment filed January 7, 2008 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the disclosure of "A compressible water displacer 210" is considered to be new matter. The disclosure sets forth a displacer that could be one of "a closed-cell foamed plastic" or a "an air filled membrane." While it is conceivable that a displacer made of a foam is compressible it cannot be assumed that all instances are compressible as different types of foam/plastic are known to be composed of rigid or hard materials. It is therefore not an inherent characteristic of "closed-cell foamed plastic" to be compressible. Further if an "air filled membrane" were to be considered compressible then features of the invention, such as an exhaust for a membrane, a space for exhaust air to be retained within the pump, or a means for inflating the "air filled membrane" would be need to be disclosed. Any amendment to the specification enabling an "air filled membrane" to be compressible would constitute new matter.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 14-15 and 17-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The reasons stated above with respect to the amendment to the specification wherein a water displacer is compressible set for the basis for the rejection of claims 14 and 17 under 35 U.S.C. 112, first paragraph.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 6 is rejected under 35 U.S.C. 102(b) as being anticipated by Rexroth US 2002/0076337. Rexroth teaches all the limitations for a submersible motor driven pump including: a motor housing 18, a motor 10 comprising a stator 62 and a rotor 46, the stator 62 being fixed to the motor housing 18, an intake housing 12 fixed to the motor housing 18, the intake housing 12 having an intake connection 14 and a discharge connection 16, an impeller 32 mounted in the intake housing 12 between the intake connection 14 and the discharge connection 16, a shaft 34 on which the impeller 32 is mounted, the shaft 34 being supported

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for rotation in the motor housing 10 and extending into the intake housing 12, a cylindrical can mounted in the motor housing 10 radially inside the stator 62, said shaft 34 extending concentrically into the can 64 to form a free space between the shaft 34 and the can 64, the rotor 46 being fixed to the shaft 34 in the free space 69, and anti-freeze apparatus, elements 54, 56, and 58, installed in at least one of the housings 18 for protecting the shaft 34.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 7-8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rexroth et al. US 2002/0076337 in view of Brooks et al. US 6,524,078. Rexroth teaches all the limitations as discussed but fails to teach the following limitations that are taught by Brooks for a submersible pump including: **[claim 7]** a ceramic bearing 50 supporting a shaft (col. 4 ll. 9-12), an elastomeric bushing 51 supporting the ceramic bearing 50 in an entrance of a can 55, and a water displacer 43 arranged in a free space, as defined between element 42 and 55; **[claim 8]** a submersible pump having an elastomeric mount 51 which supports the shaft (col.

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4 ll. 9-12) in the impeller 20; **[claim 12]** and a water displacer 43 fixed to a shaft (col. 4 ll. 9-12 between a bearing 50 and a rotor, element 42 of 40). It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the bearing and shaft arrangement of Brooks, including elastomeric shaft and impeller supports and a displacer formed on a shaft, to a submersible pump of Rexroth in order to facilitate a means for limiting an impeller to rotating in a sing direction and thereby preventing dirt, grit, or foreign matter from being entrained between a shaft and impeller (Brooks - col. 2 ll. 2-17).

11. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rexroth et al. US 2002/0076337, in view of Atkinson et al. 3,808,830, further in view of Inoue JP 59018297.

Rexroth does not teach the limitations taught by Inoue of a anti-freeze apparatus 10 mounted at a low point in an intake housing 4. As evidenced by Inoue it would have been obvious to one having ordinary skill in the art at the time the invention was made to mount a anti-freeze apparatus for a submersible pump in an intake housing in order to prevent damage due expansion of water by freezing. Modifying the submersible pump taught by Rexroth to provide the anti-freeze apparatus defined by elements 54, 56, and 58, would require the elements be relocated from the motor housing in to the intake housing. It has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

Further Rexroth teaches all the limitation as discussed but fails to teach the following limitations that are taught by Atkinson **[claim 9]** for an anti-freeze apparatus including: an elastomeric diaphragm 124 mounted at a low point in reference to an the intake housing, as shown in figure 1 with the intake housing connected to elements 14 and 50, the diaphragm 124 being expandable when subjected to ice pressure (col. 2 ll. 45-53 & 4 ll. 3-22). It would have been obvious to one having ordinary skill in the art at the time the invention was made to

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provide an anti-freeze apparatus for a submersible pump with a flexible diaphragm to provide an inexpensive throttling valve that is temperature responsive (col. 1 ll. 58-64).

12. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rexroth et al. US 2002/0076337. Rexroth teaches all the limitations as discussed except for a shaft is a ceramic shaft. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a ceramic shaft in order to provide a submersible motor driven pump. It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

13. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rexroth et al. US 2002/0076337, in view of Atkinson et al. 3,808,830, further in view of Inoue JP 59018297, as applied to claim 9 above, and further in view of Buse US 5,297,940. A combination of the references teaches all the limitations as discussed but fails to teach the following limitation that is taught by Buse for a pump including: **[claim 11]** an intake housing 1 having a drain hole 18 at a low point. Buse teaches that the drain hole is advantageous for providing a location for a probe for corrosion detection. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the intake housing of Rexroth and provide a drain hole as taught by Buse at a low point in order to provide a space within an intake housing where a probe could be inserted for detecting corrosion in a pump housing (Buse - col. 1 ll. 43-58).

Further a combination with Buse would provide a location for another type of apparatus such as temperature responsive throttling valve 44 comprising an elastic diaphragm 124 as taught by Atkinson. It would have been obvious to one having ordinary skill in the art to

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substitute a throttling valve for a corrosion probe to provide an inexpensive temperature responsive valve as taught by Atkinson (col. 1 ll. 58-64) that would protect a pump from allowing fluid to freeze inside and throughout the pump. Locating a throttling valve in a drain hole, as taught by Buse, would amount relocating component parts to an alternate location within the submersible pump taught by Rexroth. It has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

14. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rexroth et al. US 2002/0076337 in view of Warner et al. US 5,372,730. Rexroth teaches all the limitations as discussed but fails to teach the following limitations that are taught by Warner for a motor driven pump including: **[claim 13]** an annular housing 36 enclosing an annular space 34 opposite from a motor housing (not shown), an intake housing, as defined by housing surrounding element 12, having openings 28 which communicate, via elements 22, 26, and 24, with the annular space 34, and a water displacer 20 in the annular space 24. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify a submersible pump, as taught by Rexroth, to be provided with an annular space between an intake housing and a motor housing, and a shaft on which an impeller is mounted, going through the annular space and having filter mounted on and rotating with the shaft within the annular space, in order to prevent abrasive materials contained in a pumped fluid from reaching mechanical seal within the pump (Warner – col. 2 ll. 52-54).

15. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rexroth et al. US 2002/0076337 in view of Warner 5,297,940 as applied to claim 13 above, and as evidenced by Hsuch US 6,479,915. A combination of the references teaches all the limitations as discussed but fails to teach the following limitation that is taught by Hsuch for a submersible

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pump, as shown in figure 2, provide with a compressible water displacer 9 (sponge). It would have been obvious to one having ordinary skill in the art at the time the invention was made to form a water displacer from a compressible material as evidenced by the sponge 9 of Hsuch, in order to provide a submersible pump. It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

16. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rexroth et al. US 2002/0076337 in view of Warner 5,297,940 as evidenced by Hsuch US 6,479,915, as applied to claim 14 above. A combination of the references teaches all the limitations as discussed but fails to teach the limitation of a water displacer being formed from one of a closed-cell foam plastic and an air-filled membrane. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form a water displacer made from closed-cell foamed plastic in order to provide a submersible pump. It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

17. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rexroth et al. US 2002/0076337 in view of Kotera US 4,812,108. Rexroth teaches all the limitations as discussed but fails to teach the following limitations that are taught by Kotera for a motor driven pump including: **[claim 16]** an annular space 20 between an intake housing 1 and a cylindrical can 24, the annular space 20 communicating with an interior of the intake housing 1 and an interior of the can 24 via openings 33, and a water displacer 3 in the annular space 20. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a water displacer in an annular space between an intake housing and a can of

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a canned motor for a submersible pump in order to provide a pathway for a lubricating fluid to reach a bearing assembly (Kotera - col. 2 ll. 14-27).

18. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rexroth et al. US 2002/0076337 in view of Kotera US 4,812,108 as applied to claim 16 above, and as evidenced by Hsuch US 6,479,915. A combination of the references teaches all the limitations as discussed but fails to teach the following limitation that is taught by Hsuch for a submersible pump, as shown in figure 2, provide with a compressible water displacer 9 (sponge). It would have been obvious to one having ordinary skill in the art at the time the invention was made to form a water displacer from a collapsible material as evidenced by the sponge 9 of Hsuch, in order to provide a submersible pump. It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

19. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rexroth et al. US 2002/0076337 in view of Kotera US 4,812,108 as evidenced by Hsuch US 6,479,915, as applied to claim 17 above. A combination of the references teaches all the limitations as discussed but fails to teach the limitation of a water displacer being formed from one of a closed-cell foam plastic and an air-filled membrane. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form a water displacer made from closed-cell foamed plastic in order to provide a submersible pump. It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Response to Arguments

20. Applicant's arguments with respect to claims 6-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure are cited on form 892 herewith.

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEONARD J. WEINSTEIN whose telephone number is (571)272-9961. The examiner can normally be reached on Monday - Thursday 7:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on (571) 272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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